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RCA-03/0023/69

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Basic Imagery Interpretation Report

NATIONAL
PHOTOGRAPHIC
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CENTER

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MOSKVA/ODINTSOVO AW RADAR FACILITY

25X1

Deployed Comm/Elec/Radar Facilities

USSR

MAY 1969

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INSTALLATION OR ACTIVITY NAME

Moskva/Odintsovo Air Warning Radar Facility

COUNTRY

UR

UTM COORDINATES	GEOGRAPHIC COORDINATES
NA	55-39-30N 037-16-02E

MAP REFERENCE

ACIC. US Air Target Chart 200, Sheet M0167-5HL, 3d ed, Jul 67, Scale 1:200,000

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LATEST IMAGERY USED

NEGATION DATE

NA

ABSTRACT

This report provides a detailed imagery-derived analysis of the Moscow/Odintsovo (Moskva/Odintsovo) Air Warning Radar Facility. Included are a photograph of the area, mensuration and reference data, and an identification of all operational components.

This facility is part of the Moscow air defense air warning radar system and is composed of a rectangular operations area and a large support area immediately east of the operations area.

INTRODUCTION

The Moscow/Odintsovo (Moskva/Odintsovo) Air Warning Radar Facility (Figure 1) is at an elevation of 650 feet, about 4 nautical miles (8,000 yards) north of the intersection of the two Moscow/Vankovo Airfield runways and 13.2 nautical miles (nm) southwest of the center of Moscow. This facility is one of 14 similar facilities forming the two concentric rings of the Moscow air defense air warning radar system. The outer ring, composed of 10 air warning radar facilities, has a mean diameter of approximately 200 nm; the inner-ring, composed of four facilities, has a diameter of approximately 14 nm.

The most apparent difference between inner-ring facilities and outer-ring facilities is the configuration of the fenced operations areas which are rectangular for the inner-ring facilities and trapezoidal for the outer-ring facilities. This difference is apparently because the fences of the outer-ring facilities are extended to enclose high-frequency communications antennas located behind the radar positions. These communications antennas are apparently not needed at the inner-ring facilities because of the proximity to Moscow.

Odintsovo, an inner-ring facility (Figures 2 and 3), has a rectangular operations area composed of eight radar positions, 11 buildings, and two small-arms firing ranges. The large contiguous support area contains a total of approximately 120 barracks-type administration and support buildings.

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BASIC DESCRIPTION

Physical Features

Operations Area

25X1 reveals that the southernmost radar (item A, Figure 3), positioned on top of a tower, is a possible air warning CROSS OUT radar. Ground photography through October 1966 indicates a CROSS OUT radar mounted on a masonry tower at this same position.

North of item A are two probable height-finding radars (items B and C) positioned on top of two radar mounds. Ground photography through January 1967 revealed two height-finding SIDE NET radars mounted on earth mounds.

North of positions B and C are two more possible height-finding radars: one on a tower (item D) and the other on a mound (item E). Ground photography through January 1967 indicates both items are height-finding SIDE NET radars.

North of items D and E are two possible air-warning BACK NET radars (items F and G) on earth mounds. Ground photography through April 1965 revealed the two BACK NET radars in this position on earth mounds.

The northernmost area contains a possible FLAT FACE radar (item H) supported by a probable masonry tower. Ground photography through 1966 indicates a FLAT FACE radar in this position. This same photography also reveals two MERCURY GRASS- and two FORK REST-type communications antennas with undetermined orientations. At least one lattice mast supporting an unidentified array is also observed. Yagi-type arrays and lattice masts are not observable on small-

25X1 scale photography.

Between items F and G is a possible control building (item 100). There is no available ground photography of this building, possibly because the high fence surrounding the facility and the arrangement of trees and other buildings act as obstacles.

Between items B and C is located a probable van/control building (item 101). Ground photography through January 1967 reveals a probable control building at this location.

Between items D and E is a partially earth-covered control building (item 110). The earth mounding is observable on ground photography through 1966.

Support Area

The support area immediately east of the operations area contains approximately 110 administration, maintenance, and barracks-type buildings with a total approximate floorspace of 776,000 square feet.

The streets of this area are generally arranged in a geometrical pattern, running from the northeast to the southwest and from the southeast to the northwest. Most

major structures are located in the central area and the smaller storage/maintenance buildings are along the outer perimeter. Most buildings are single story; however, a few of the larger administration buildings are three storied.

Status and Activity

Operations & Support Areas

The latest coverage reveals snow partially covering the area. The facility seems to be fully operational. During the time this facility has been in operation two general groups of radars have been observed. The first group was in operation between 25X1

In August 1958, ground photography first revealed a GAGE air warning radar with a WITCH EIGHT IFF radar mounted on a semiburied bunker. Also, a PATTY CAKE height-finding radar was visible on an earth mound. The support area and other structures were not visible.

In March 1959, a CROSS OUT radar with an END BOX radar (indicating IFF capability) was positioned on a masonry tower, where it was located through 25X1 Also observed was a ROCK CAKE/STONE CAKE height-finding radar, a HOT PLATE tower, a DRUM HEAD radar, a FISH NET IFF interrogator, and a SCORE BOARD IFF radar.

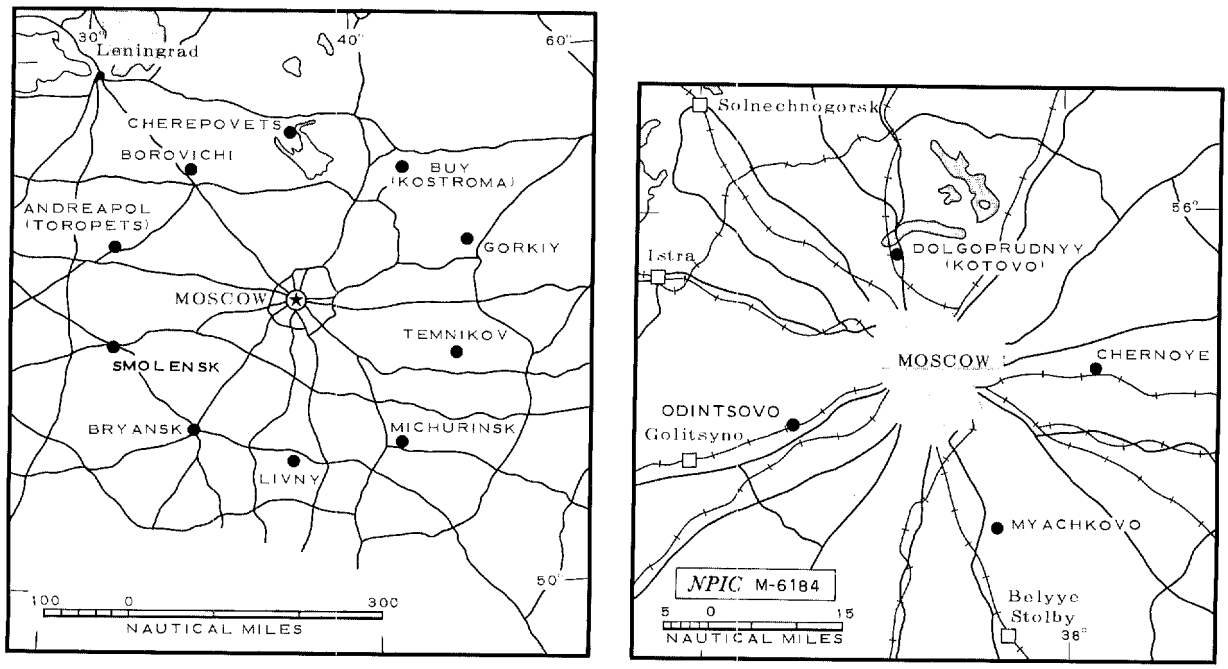
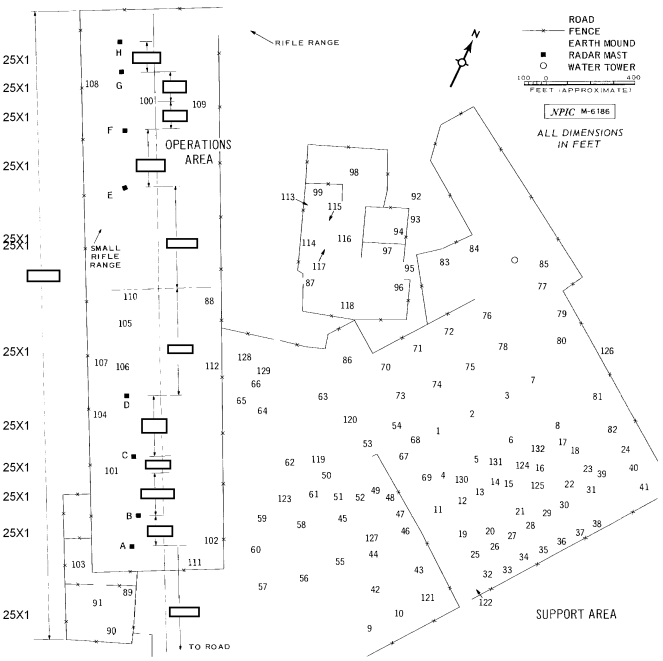


FIGURE 1. LOCATION OF MOSCOW INNER (RIGHT) AND OUTER (LEFT) AIR WARNING FACILITIES.

FIGURE 2. MOSKVA/ODINTSOVO AIR WARNING RADAR FACILITY.



ITEM BLDG(S) NO	BLDGS	DIMENSIONS (FT) L	W	ROOF COVER (SQ FT)	TOTAL FLOORSPACE (SQ FT)	STORIES
1-6	Admin bldgs					3
7, 8	Admin bldg					3
9	Support bldg					2
10	Support bldg					2
11-38	Housing					1
39-41	Support bldgs					1
42	Support bldg					1
43	Support bldg					1
44	Support bldg					1
45	Support bldg					1
46-49	Support bldg					1
50	Support bldg					1
51	Support bldg					1
52	Support bldg					1
53	Support bldg					2
54	Support bldg					2
55	Support bldg					1
56	Support bldg					1
57	Support bldg					1
58	Support bldg					1
59	Support bldg					1
60	Support bldg					1
61	Support bldg					1
62	Support bldg					1
63	Support bldg					2
64	Admin bldg					2
65	Support bldg					1
66	Support bldg					1
67	Support bldg					1
68	Support bldg					1
69	Support bldg					1
70-75	Support bldg					1
76-78	Support bldg					1
79	Support bldg					1
80	Support bldg					1
81	Admin bldg					1
82	Support bldg					1
83, 84	Support bldg					3
85	Support bldg					1
86	Support bldg					2
87	Support bldg					1
88	Support bldg					1
89	Support bldg					1
90	Support bldg					1
91	Support bldg					1
92	Support bldg					1

ITEM BLDG(S) NO	BLDGS	DIMENSIONS (FT) L	W	ROOF COVER (SQ FT)	TOTAL FLOORSPACE (SQ FT)	STORIES
93	Support bldg					1
94	Support bldg					1
95, 96	Support bldgs					1
97	Support bldg					1
98	Support bldg					1
99	Support bldg					1
100	Control bldg					1
101	Control bldg					1
102	Support bldg					1
103	Support bldg					1
104	Support bldg					1
105	Support bldg					1
106	Support bldg					1
107	Support bldg					1
108	Support bldg					1
109	Support bldg					1
110	Control bldg					1
111	Support bldg					1
112	Support bldg					1
113	Support bldg					1
114	Support bldg					1
115	Support bldg					1
116	Support bldg					1
117	Support bldg					1
118	Support bldg					1
119	Support bldg					1
120	Support bldg					1
121	Support bldg					1
122	Support bldg					1
123	Support bldg					1
124	Support bldg					1
125	Support bldg					1
126	Support bldg					1
127	Support bldg					1
128	Support bldg					1
129	Support bldg					1
130	Support bldg					1
131	Support bldg					1
132	Support bldg					1

FIGURE 3. LAYOUT OF MOSKVA/ODINTSOVO AIR WARNING RADAR FACILITY.

A second group of radars was in operation by which included none of the previously reported radars except for the CROSS OUT, END BOX, and FISH NET. By this date, the following types of radars were observed: SIDE NET, BACK NET, FLAT FACE, and SCORE BOARD. 25X1

Security

Overhead photography reveals the entire facility is enclosed by a solid fence. Ground photography through 1967 reveals the fence to be solid, made of wood planks. The operations area and parts of the support area have additional fencing. 25X1

REFERENCES

25X1

IMAGERY*

GROUND PHOTOGRAPHY

DOD. 1-901-0095-67, 12 May 67 (CONFIDENTIAL/ 25X1
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DOD. 1-901-0001-67, 11 Jan 67 (CONFIDENTIAL 25X1

DOD. 2-901-0281-66, 11 Oct 66 (CONFIDENTIAL)

DOD. 1-901-0124-66, 26 May 66 (CONFIDENTIAL/ 25X1
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DOD. 1-901-0137-65, 19 Apr 65 (SECRET/ 25X1

CIA. 1051432, 4 Apr 65 (CONFIDENTIAL)

DOD. 1-901-0077-65, 16 Mar 65 (SECRET 25X1

CIA. 921116, 26 Apr 63 (CONFIDENTIAL)

CIA. 523205, 9 Mar 59 (SECRET)

CIA. 523204, 9 Mar 59 (SECRET)

CIA. 522217, 18 Feb 59 (SECRET)

CIA. 521634, Feb 59 (SECRET)

CIA. 521638, Feb 59 (SECRET)

CIA. 521637, Feb 59 (SECRET)

MAPS OR CHARTS

ACIC. US Air Target Chart 200, Sheet M0167-5HL, 3d ed, Jul 67, Scale 1:200,000 (SECRET/
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REQUIREMENT

COMIREX BR-C/005-69
NPIC Project 210637